



**TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
401 CHURCH STREET
L & C ANNEX 6TH FLOOR
NASHVILLE TN 37243**

May 3, 2013

Honorable Carl Cooper, Mayor
e-copy: chwater@united.net
Town of Chapel Hill
PO Box 157
Chapel Hill, TN 37034

Subject: **NPDES Permit No. TN0064670
Chapel Hill STP
Chapel Hill, Marshall County, Tennessee**

Dear Mayor Cooper:

In accordance with the provisions of the Tennessee Water Quality Control Act, Tennessee Code Annotated (T.C.A.), Sections 69-3-101 through 69-3-120, the Division of Water Resources hereby issues the enclosed NPDES Permit. The continuance and/or reissuance of this NPDES Permit is contingent upon your meeting the conditions and requirements as stated therein.

Please be advised that a petition for permit appeal may be filed, pursuant to T.C.A. Section 69-3-105, subsection (i), by the permit applicant or by any aggrieved person who participated in the public comment period or gave testimony at a formal public hearing whose appeal is based upon any of the issues that were provided to the commissioner in writing during the public comment period or in testimony at a formal public hearing on the permit application. Additionally, for those permits for which the department gives public notice of a draft permit, any permit applicant or aggrieved person may base a permit appeal on any material change to conditions in the final permit from those in the draft, unless the material change has been subject to additional opportunity for public comment. Any petition for permit appeal under this subsection (i) shall be filed with the technical secretary of the Water Resources Board within thirty (30) days after public notice of the commissioner's decision to issue or deny the permit. A copy of the filing should also be sent to TDEC's Office of General Counsel.

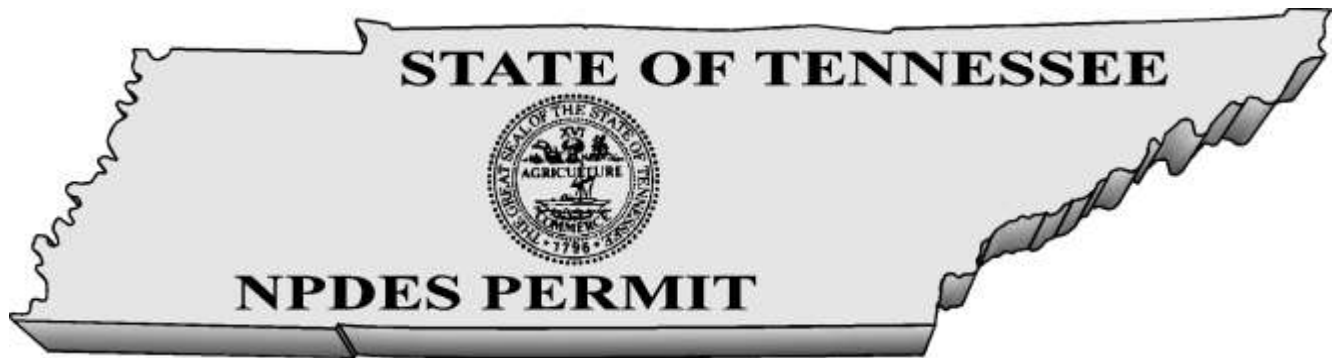
If you have questions, please contact the Columbia Environmental Field Office at 1-888-891-TDEC; or, at this office, please contact Mr. Bob Alexander at (615) 532-0659 or by E-mail at Robert.Alexander@tn.gov.

Sincerely,

Vojin Janjić
Manager, Permit Section

Enclosure

cc: Permit Section File
Columbia Environmental Field Office (Gary.Horne@tn.gov)
Mr. Mike Hatten, City Manager, Town of Chapel Hill, chwater@united.net
Mr. John Helmick, Wastewater Operator, Chapel Hill WWTP, Hwy 99, Chapel Hill, TN 37034
Mr. Donnie Groves, Superintendent, Chapel Hill WWTP, chwater@united.net



No. TN0064670

Authorization to discharge under the
National Pollutant Discharge Elimination System (NPDES)

Issued By
Tennessee Department of Environment and Conservation
Division of Water Resources
401 Church Street
6th Floor, L & C Annex
Nashville, Tennessee 37243

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.) and the delegation of authority from the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, et seq.)

Discharger: **Chapel Hill STP**
is authorized to discharge: **treated municipal wastewater from Outfall 001**
from a facility located: **in Chapel Hill, Marshall County, Tennessee**
to receiving waters named: **Duck River at mile 185.5**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on: **June 1, 2013**

This permit shall expire on: **May 30, 2018**

Issuance date: **May 1, 2013**

A handwritten signature in blue ink, appearing to read "S. Dudley".

for Sandra K. Dudley, Ph.D., P.E.
Director

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1.0. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1.1. NUMERIC AND NARRATIVE EFFLUENT LIMITATIONS

The Town of Chapel Hill is authorized to discharge treated municipal wastewater from Outfall 001 to the Duck River at mile 185.5. Discharge 001 consists of municipal wastewater from a treatment facility with a design capacity of 0.17 MGD. Discharge 001 shall be limited and monitored by the permittee as specified below:

<u>Parameter</u>	<u>Qualifier</u>	<u>Value</u>	<u>Unit</u>	<u>Sample Type</u>	<u>Frequency</u>	<u>Statistical Base</u>
Overflow use, occurrences	Report	-	occur/mo	Occurrences	Monthly	Monthly Total
<u>Parameter</u>	<u>Qualifier</u>	<u>Value</u>	<u>Unit</u>	<u>Sample Type</u>	<u>Frequency</u>	<u>Statistical Base</u>
BOD, 5-day, 20 C	<=	30	mg/L	Composite	Weekly	Monthly Average
BOD, 5-day, 20 C	<=	40	mg/L	Composite	Weekly	Weekly Average
BOD, 5-day, 20 C	<=	45	mg/L	Composite	Weekly	Daily Maximum
BOD, 5-day, 20 C	<=	43	lb/d	Composite	Weekly	Monthly Average
BOD, 5-day, 20 C	<=	57	lb/d	Composite	Weekly	Weekly Average
Chlorine, total residual (TRC)	<=	2	mg/L	Grab	Five Per Week	Instantaneous Maximum
E. coli, MTEC-MF	<=	126	#/100mL	Grab	Weekly	Monthly Geometric Maximum
E. coli, MTEC-MF	<=	487	#/100mL	Grab	Weekly	Daily Maximum
Flow	Report	-	Mgal/d	Continuous	Daily	Monthly Average
Flow	Report	-	Mgal/d	Continuous	Daily	Daily Maximum
Oxygen, dissolved (DO)	>=	1	mg/L	Grab	Five Per Week	Instantaneous Minimum
Settleable Solids	<=	1	mL/L	Grab	Once Per Weekly Discharge	Daily Maximum
Total Suspended Solids (TSS)	<=	120	mg/L	Composite	Once Per Weekly Discharge	Daily Maximum
Total Suspended Solids (TSS)	<=	100	mg/L	Composite	Once Per Weekly Discharge	Monthly Average
Total Suspended Solids (TSS)	<=	156	lb/d	Composite	Once Per Weekly Discharge	Weekly Average
Total Suspended Solids (TSS)	<=	142	lb/d	Composite	Once Per Weekly Discharge	Monthly Average
Total Suspended Solids (TSS)	<=	110	mg/L	Composite	Once Per Weekly Discharge	Weekly Average
pH	>=	6	SU	Grab	Five Per Week	Minimum
pH	<=	9	SU	Grab	Five Per Week	Maximum

Description : External Outfall, Number : 001, Monitoring : Percent Removal, Season : All Year

<u>Parameter</u>	<u>Qualifier</u>	<u>Value</u>	<u>Unit</u>	<u>Sample Type</u>	<u>Frequency</u>	<u>Statistical Base</u>
BOD, 5-day, % removal	>=	65	%	Composite	Weekly	Monthly Average Minimum

Description : External Outfall, Number : 001, Monitoring : See Comments, Season : All Year

<u>Parameter</u>	<u>Qualifier</u>	<u>Value</u>	<u>Unit</u>	<u>Sample Type</u>	<u>Frequency</u>	<u>Statistical Base</u>
BOD, 5-day, 20 C	<=	64	lb/d	Composite	Weekly	Daily Maximum
Total Suspended Solids (TSS)	<=	170	lb/d	Composite	Weekly	Daily Maximum
<u>Parameter</u>	<u>Qualifier</u>	<u>Value</u>	<u>Unit</u>	<u>Sample Type</u>	<u>Frequency</u>	<u>Statistical Base</u>
Bypass of Treatment	Report	-	occur/mo	Occurrences	Monthly	Monthly Total
Overflow use, occurrences	Report	-	occur/mo	Occurrences	Monthly	Monthly Total

Description : External Outfall, Number : 001, Monitoring : Raw Sewage Influent, Season : All Year

<u>Parameter</u>	<u>Qualifier</u>	<u>Value</u>	<u>Unit</u>	<u>Sample Type</u>	<u>Frequency</u>	<u>Statistical Base</u>
BOD, 5-day, 20 C	Report	-	mg/L	Grab	Weekly	Daily Maximum
BOD, 5-day, 20 C	Report	-	mg/L	Grab	Weekly	Monthly Average
Flow	Report	-	Mgal/d	-	-	Monthly Average
Flow	Report	-	Mgal/d	-	-	Daily Maximum

Additional permit provisions include:

The wastewater discharge must be disinfected to the extent that viable coliform organisms are effectively eliminated. The concentration of the *E. coli* group after disinfection shall not exceed 126 cfu per 100 ml as the geometric mean calculated on the actual number of samples collected and tested for *E. coli* within the required reporting period. The permittee may collect more samples than specified as the monitoring frequency. Samples may not be collected at intervals of less than 12 hours. For the purpose of determining the geometric mean, individual samples having an *E. coli* group concentration of less than one (1) per 100 ml shall be considered as having a concentration of one (1) per 100 ml. In addition, the concentration of the *E. coli* group in any individual sample shall not exceed a specified maximum amount. A maximum daily limit of 487 colonies per 100 ml applies to lakes and exceptional Tennessee waters. A maximum daily limit of 941 colonies per 100 ml applies to all other recreational waters.

There shall be no distinctly visible floating scum, oil or other matter contained in the wastewater discharge. The wastewater discharge must not cause an objectionable color contrast in the receiving stream.

The wastewater discharge shall not contain pollutants in quantities that will be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.

Sludge or any other material removed by any treatment works must be disposed of in a manner that prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, TCA 68-31-101 et seq. and the Tennessee Hazardous Waste Management Act, TCA 68-46-101 et seq.

For the purpose of evaluating compliance with the permit limits established herein, where certain limits are below the State of Tennessee published required detection levels (RDLs) for any given effluent characteristics, the results of analyses below the RDL shall be reported as Below Detection Level (BDL), unless in specific cases other detection limits are demonstrated to be the best achievable because of the particular nature of the wastewater being analyzed.

The treatment facility will also demonstrate 65% minimum removal of the BOD₅ and TSS based upon each daily composite sample. The formula for this calculation is as follows:

$$\left[1 - \frac{\text{daily effluent concentration}}{\text{daily influent concentration}} \right] \times 100\% = \% \text{ removal}$$

1.2. MONITORING PROCEDURES

1.2.1. Representative Sampling

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than plus or minus 10% from the true discharge rates throughout the range of expected discharge volumes.

Samples and measurements taken in compliance with the monitoring requirements specified above shall be representative of the volume and nature of the monitored discharge, and shall be taken at the following location(s):

Influent samples must be collected prior to mixing with any other wastewater being returned to the head of the plant, such as sludge return. Those systems with more than one influent line must collect samples from each and proportion the results by the flow from each line.

Effluent samples must be representative of the wastewater being discharged and collected prior to mixing with any other discharge or the receiving stream. This can be a different point for different parameters, but must be after all treatment for that parameter or all expected change:

- a. The chlorine residual must be measured after the chlorine contact chamber and any dechlorination. It may be to the advantage of the permittee to measure at the end of any long outfall lines.
- b. Samples for *E. coli* can be collected at any point between disinfection and the actual discharge.
- c. The dissolved oxygen can drop in the outfall line; therefore, D.O. measurements are required at the discharge end of outfall lines greater than one mile long. Systems with outfall lines less than one mile may measure dissolved oxygen as the wastewater leaves the treatment facility. For systems with dechlorination, dissolved oxygen must be measured after this step and as close to the end of the outfall line as possible.
- d. Total suspended solids and settleable solids can be collected at any point after the final clarifier.
- e. Biomonitoring tests (if required) shall be conducted on final effluent.

1.2.2. Sampling Frequency

Where the permit requires sampling and monitoring of a particular effluent characteristic(s) at a frequency of less than once per day or daily, the permittee is precluded from marking the "No Discharge" block on the Discharge Monitoring Report if there has been any discharge from that particular outfall during the period which coincides with the required monitoring frequency; i.e. if the required monitoring frequency is once per month or 1/month, the monitoring period is one month, and if the discharge occurs during only one day in that period then the permittee must sample on that day and report the results of analyses accordingly.

1.2.3. Test Procedures

- a. Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304 (h) of the Clean Water Act (the "Act"), as amended, under which such procedures may be required.
- b. Unless otherwise noted in the permit, all pollutant parameters shall be determined according to methods prescribed in Title 40, CFR, Part 136, as amended, promulgated pursuant to Section 304 (h) of the Act.
- c. Composite samples must be proportioned by flow at time of sampling. Aliquots may be collected manually or automatically. The sample aliquots must be maintained at ≤ 6 degrees Celsius during the compositing period.
- d. In instances where permit limits established through implementation of applicable water criteria are below analytical capabilities, compliance with those limits will be determined using the detection limits described in the TN Rules, Chapter 1200-4-3-.05(8).

1.2.4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date and time of sampling;
- b. The exact person(s) collecting samples;
- c. The dates and times the analyses were performed;
- d. The person(s) or laboratory who performed the analyses;
- e. The analytical techniques or methods used, and;
- f. The results of all required analyses.

1.2.5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation shall be retained for a minimum of three (3) years, or longer, if requested by the Division of Water Resources.

1.3. REPORTING

1.3.1. Monitoring Results

Monitoring results shall be recorded monthly and submitted monthly using Discharge Monitoring Report (DMR) forms supplied by the Division of Water Resources. Submittals shall be postmarked no later than 15 days after the completion of the reporting period. A completed DMR with an original signature shall be submitted to the following address:

**TENNESSEE DEPT. OF ENVIRONMENT & CONSERVATION
DIVISION OF WATER RESOURCES
ENFORCEMENT & COMPLIANCE SECTION
L & C ANNEX 6TH FLOOR
401 CHURCH STREET
NASHVILLE TN 37243**

A copy should be retained for the permittee's files. In addition, any communication regarding compliance with the conditions of this permit must be sent to the two offices listed above.

The first DMR is due on the 15th of the month following permit effectiveness.

DMRs and any other information or report must be signed and certified by a responsible corporate officer as defined in 40 CFR 122.22, a general partner or proprietor, or a principal

municipal executive officer or ranking elected official, or his duly authorized representative. Such authorization must be submitted in writing and must explain the duties and responsibilities of the authorized representative.

The electronic submission of DMR data will be accepted only if formally approved beforehand by the division. For purposes of determining compliance with this permit, data approved by the division to be submitted electronically is legally equivalent to data submitted on signed and certified DMR forms.

1.3.2. Additional Monitoring by Permittee

If the permittee monitors any pollutant specifically limited by this permit more frequently than required at the location(s) designated, using approved analytical methods as specified herein, the results of such monitoring shall be included in the calculation and reporting of the values required in the DMR form. Such increased frequency shall also be indicated on the form.

1.3.3. Falsifying Results and/or Reports

Knowingly making any false statement on any report required by this permit or falsifying any result may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Water Pollution Control Act, as amended, and in Section 69-3-115 of the Tennessee Water Quality Control Act.

1.3.4. Monthly Report of Operation

Monthly operational reports shall be submitted on standard forms to the Division of Water Resources Environmental Field Office in Columbia. Reports shall be submitted by the 15th day of the month following data collection.

1.3.5. Bypass and Overflow Reporting

1.3.5.1. Report Requirements

A summary report of known or suspected instances of overflows in the collection system or bypass of wastewater treatment facilities shall accompany the Discharge Monitoring Report. The report must contain the date and duration of the instances of overflow and/or bypassing and the estimated quantity of wastewater released and/or bypassed.

The report must also detail activities undertaken during the reporting period to (1) determine if overflow is occurring in the collection system, (2) correct those known or suspected overflow points and (3) prevent future or possible overflows and any resulting bypassing at the treatment facility.

On the DMR, the permittee must report the number of sanitary sewer overflows, dry-weather overflows and in-plant bypasses separately. Three lines must be used on the DMR form, one for sanitary sewer overflows, one for dry-weather overflows and one for in-plant bypasses.

1.3.5.2. Anticipated Bypass Notification

If, because of unavoidable maintenance or construction, the permittee has need to create an in-plant bypass which would cause an effluent violation, the permittee must notify the division as soon as possible, but in any case, no later than 10 days prior to the date of the bypass.

1.3.6. Reporting Less Than Detection

A permit limit may be less than the accepted detection level. If the samples are below the detection level, then report "BDL" or "NODI =B" on the DMRs. The permittee must use the correct detection levels in all analytical testing required in the permit. The required detection levels are listed in the Rules of the Department of Environment and Conservation, Division of Water Resources, Chapter 1200-4-3-.05(8).

For example, if the limit is 0.02 mg/l with a detection level of 0.05 mg/l and detection is shown; 0.05 mg/l must be reported. In contrast, if nothing is detected reporting "BDL" or "NODI =B" is acceptable.

1.4. COMPLIANCE WITH SECTION 208

The limits and conditions in this permit shall require compliance with an area-wide waste treatment plan (208 Water Quality Management Plan) where such approved plan is applicable.

1.5. REOPENER CLAUSE

This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 307(a)(2) and 405(d)(2)(D) of the Clean Water Act, as amended, if the effluent standard, limitation or sludge disposal requirement so issued or approved:

- a. Contains different conditions or is otherwise more stringent than any condition in the permit; or
- b. Controls any pollutant or disposal method not addressed in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

2.0. GENERAL PERMIT REQUIREMENTS

2.1. GENERAL PROVISIONS

2.1.1. Duty to Reapply

Permittee is not authorized to discharge after the expiration date of this permit. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information and forms as are required to the Director of Water Resources (the "director") no later than 180 days prior to the expiration date. Such forms shall be properly signed and certified.

2.1.2. Right of Entry

The permittee shall allow the director, the Regional Administrator of the U.S. Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials:

- a. To enter upon the permittee's premises where an effluent source is located or where records are required to be kept under the terms and conditions of this permit, and at reasonable times to copy these records;
- b. To inspect at reasonable times any monitoring equipment or method or any collection, treatment, pollution management, or discharge facilities required under this permit; and
- c. To sample at reasonable times any discharge of pollutants.

2.1.3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Water Pollution Control Act, as amended, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division of Water Resources. As required by the Federal Act, effluent data shall not be considered confidential.

2.1.4. Proper Operation and Maintenance

- a. The permittee shall at all times properly operate and maintain all facilities and systems (and related appurtenances) for collection and treatment which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory and process controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is

necessary to achieve compliance with the conditions of the permit. Backup continuous pH and flow monitoring equipment are not required.

- b. Dilution water shall not be added to comply with effluent requirements to achieve BCT, BPT, BAT and or other technology based effluent limitations such as those in State of Tennessee Rule 1200-4-5-.09.

2.1.5. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

2.1.6. Severability

The provisions of this permit are severable. If any provision of this permit due to any circumstance, is held invalid, then the application of such provision to other circumstances and to the remainder of this permit shall not be affected thereby.

2.1.7. Other Information

If the permittee becomes aware of failure to submit any relevant facts in a permit application, or of submission of incorrect information in a permit application or in any report to the director, then the permittee shall promptly submit such facts or information.

2.2. CHANGES AFFECTING THE PERMIT

2.2.1. Planned Changes

The permittee shall give notice to the director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

- a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
- b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants, which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

2.2.2. Permit Modification, Revocation, or Termination

- a. This permit may be modified, revoked and reissued, or terminated for cause as described in 40 CFR 122.62 and 122.64, Federal Register, Volume 49, No. 188 (Wednesday, September 26, 1984), as amended.
- b. The permittee shall furnish to the director, within a reasonable time, any information which the director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the director, upon request, copies of records required to be kept by this permit.
- c. If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established for any toxic pollutant under Section 307(a) of the Federal Water Pollution Control Act, as amended, the director shall modify or revoke and reissue the permit to conform to the prohibition or to the effluent standard, providing that the effluent standard is more stringent than the limitation in the permit on the toxic pollutant. The permittee shall comply with these effluent standards or prohibitions within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified or revoked and reissued to incorporate the requirement.
- d. The filing of a request by the permittee for a modification, revocation, reissuance, termination, or notification of planned changes or anticipated noncompliance does not halt any permit condition.

2.2.3. Change of Ownership

This permit may be transferred to another party (provided there are neither modifications to the facility or its operations, nor any other changes which might affect the permit limits and conditions contained in the permit) by the permittee if:

- a. The permittee notifies the director of the proposed transfer at least 30 days in advance of the proposed transfer date;
- b. The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage, and liability between them; and
- c. The director, within 30 days, does not notify the current permittee and the new permittee of his intent to modify, revoke or reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

Pursuant to the requirements of 40 CFR 122.61, concerning transfer of ownership, the permittee must provide the following information to the division in their formal notice of intent to transfer ownership: 1) the NPDES permit number of the subject permit; 2) the effective date of the proposed transfer; 3) the name and address of

the transferor; 4) the name and address of the transferee; 5) the names of the responsible parties for both the transferor and transferee; 6) a statement that the transferee assumes responsibility for the subject NPDES permit; 7) a statement that the transferor relinquishes responsibility for the subject NPDES permit; 8) the signatures of the responsible parties for both the transferor and transferee pursuant to the requirements of 40 CFR 122.22(a), "Signatories to permit applications"; and, 9) a statement regarding any proposed modifications to the facility, its operations, or any other changes which might affect the permit limits and conditions contained in the permit.

2.2.4. Change of Mailing Address

The permittee shall promptly provide to the director written notice of any change of mailing address. In the absence of such notice the original address of the permittee will be assumed to be correct.

2.3. NONCOMPLIANCE

2.3.1. Effect of Noncompliance

All discharges shall be consistent with the terms and conditions of this permit. Any permit noncompliance constitutes a violation of applicable state and federal laws and is grounds for enforcement action, permit termination, permit modification, or denial of permit reissuance.

2.3.2. Reporting of Noncompliance

a. 24-Hour Reporting

In the case of any noncompliance which could cause a threat to public drinking supplies, or any other discharge which could constitute a threat to human health or the environment, the required notice of non-compliance shall be provided to the Division of Water Resources in the appropriate Environmental Field Office within 24-hours from the time the permittee becomes aware of the circumstances. (The Environmental Field Office should be contacted for names and phone numbers of environmental response team).

A written submission must be provided within five days of the time the permittee becomes aware of the circumstances unless the director on a case-by-case basis waives this requirement. The permittee shall provide the director with the following information:

- i. A description of the discharge and cause of noncompliance;
- ii. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and

- iii. The steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

b. Scheduled Reporting

For instances of noncompliance which are not reported under subparagraph 2.3.2.a above, the permittee shall report the noncompliance on the Discharge Monitoring Report. The report shall contain all information concerning the steps taken, or planned, to reduce, eliminate, and prevent recurrence of the violation and the anticipated time the violation is expected to continue.

2.3.3. Overflow

- a. "**Overflow**" means any release of sewage from any portion of the collection, transmission, or treatment system other than through permitted outfalls.
- b. Overflows are prohibited.
- c. The permittee shall operate the collection system so as to avoid overflows. No new or additional flows shall be added upstream of any point in the collection system, which experiences chronic overflows (greater than 5 events per year) or would otherwise overload any portion of the system.
- d. Unless there is specific enforcement action to the contrary, the permittee is relieved of this requirement after: 1) an authorized representative of the Commissioner of the Department of Environment and Conservation has approved an engineering report and construction plans and specifications prepared in accordance with accepted engineering practices for correction of the problem; 2) the correction work is underway; and 3) the cumulative, peak-design, flows potentially added from new connections and line extensions upstream of any chronic overflow point are less than or proportional to the amount of inflow and infiltration removal documented upstream of that point. The inflow and infiltration reduction must be measured by the permittee using practices that are customary in the environmental engineering field and reported in an attachment to a Monthly Operating Report submitted to the local TDEC Environmental Field Office. The data measurement period shall be sufficient to account for seasonal rainfall patterns and seasonal groundwater table elevations.

2.3.4. Upset

- a. "**Upset**" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the

permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- i. An upset occurred and that the permittee can identify the cause(s) of the upset;
- ii. The permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;
- iii. The permittee submitted information required under "Reporting of Noncompliance" within 24-hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days); and
- iv. The permittee complied with any remedial measures required under "Adverse Impact."

2.3.5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2.3.6. Bypass

- a. "**Bypass**" is the intentional diversion of waste streams from any portion of a treatment facility. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- b. Bypasses are prohibited unless all of the following 3 conditions are met:
 - i. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;
 - ii. There are no feasible alternatives to bypass, such as the construction and use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass, which occurred during normal periods of equipment downtime or preventative maintenance;

- iii. The permittee submits notice of an unanticipated bypass to the Division of Water Resources in the appropriate Environmental Field Office within 24 hours of becoming aware of the bypass (if this information is provided orally, a written submission must be provided within five days). When the need for the bypass is foreseeable, prior notification shall be submitted to the director, if possible, at least 10 days before the date of the bypass.
- c. Bypasses not exceeding permit limitations are allowed **only** if the bypass is necessary for essential maintenance to assure efficient operation. All other bypasses are prohibited. Allowable bypasses not exceeding limitations are not subject to the reporting requirements of 2.3.6.b.iii, above.

2.3.7. Washout

- a. For domestic wastewater plants only, a "washout" shall be defined as loss of Mixed Liquor Suspended Solids (MLSS) of 30.00% or more. This refers to the MLSS in the aeration basin(s) only. This does not include MLSS decrease due to solids wasting to the sludge disposal system. A washout can be caused by improper operation or from peak flows due to infiltration and inflow.
- b. A washout is prohibited. If a washout occurs the permittee must report the incident to the Division of Water Resources in the appropriate Environmental Field Office within 24 hours by telephone. A written submission must be provided within five days. The washout must be noted on the discharge monitoring report. Each day of a washout is a separate violation.

2.4. LIABILITIES

2.4.1. Civil and Criminal Liability

Except as provided in permit conditions for "**Bypassing**," "**Overflow**," and "**Upset**," nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the State of Tennessee, including but not limited to fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of wastewater to any surface or subsurface waters. Additionally, notwithstanding this Permit, it shall be the responsibility of the permittee to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created.

2.4.2. Liability Under State Law

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or the Federal Water Pollution Control Act, as amended.

3.0. PERMIT SPECIFIC REQUIREMENTS

3.1. CERTIFIED OPERATOR

The waste treatment facilities shall be operated under the supervision of a certified wastewater treatment operator and the collection system shall be operated under the supervision of a certified collection system operator in accordance with the Water Environmental Health Act of 1984.

3.2. PRETREATMENT PROGRAM

The Chapel Hill STP has received an exemption from development of a pretreatment program due to the lack of any significant industrial users. To keep the exemption, the Town of Chapel Hill must complete an updated Industrial Waste Survey within 120 days of the effective date of the permit, unless such a survey has been submitted within 3 years of the effective date. The Town of Chapel Hill must notify the division immediately of its intent to connect a significant industrial user to the sewage system.

3.3. PLACEMENT OF SIGNS

Within sixty (60) days of the effective date of this permit, the permittee shall place and maintain a sign(s) at each outfall and any bypass/overflow point in the collection system. For the purposes of this requirement, any bypass/overflow point that has discharged five (5) or more times in the last year must be so posted. The sign(s) should be clearly visible to the public from the bank and the receiving stream. The minimum sign size should be two feet by two feet (2' x 2') with one-inch (1") letters. The sign should be made of durable material and have a white background with black letters.

The sign(s) are to provide notice to the public as to the nature of the discharge and, in the case of the permitted outfalls, that the discharge is regulated by the Tennessee Department of Environment and Conservation, Division of Water Resources. The following is given as an example of the minimal amount of information that must be included on the sign:

NPDES Permitted Municipal/Sanitary Outfall:

<p>TREATED MUNICIPAL/SANITARY WASTEWATER Chapel Hill STP (931) 364-7632 NPDES Permit NO. TN0064670 TENNESSEE DIVISION OF WATER RESOURCES 1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - Columbia</p>

No later than sixty (60) days from the effective date of this permit, the permittee shall have the above sign(s) on display in the location specified.

3.4. ANTIDegradation

Pursuant to the Rules of the Tennessee Department of Environment and Conservation, Chapter 1200-4-3-.06, titled "Tennessee Antidegradation Statement," which prohibits the degradation of high quality surface waters and the increased discharges of substances that cause or contribute to impairment, the permittee shall further be required, pursuant to the terms and conditions of this permit, to comply with the effluent limitations and schedules of compliance required to implement applicable water quality standards, to comply with a State Water Quality Plan or other state or federal laws or regulations, or where practicable, to comply with a standard permitting no discharge of pollutants.

4.0. DEFINITIONS AND ACRONYMS

4.1. DEFINITIONS

A "**bypass**" is defined as the intentional diversion of waste streams from any portion of a treatment facility.

A "**calendar day**" is defined as the 24-hour period from midnight to midnight or any other 24-hour period that reasonably approximates the midnight to midnight time period.

A "**composite sample**" is a combination of not less than 8 influent or effluent portions, of at least 100 ml, collected over a 24-hour period. Under certain circumstances a lesser time period may be allowed, but in no case, less than 8 hours.

The "**daily maximum concentration**" is a limitation on the average concentration in units of mass per volume (e.g. milligrams per liter), of the discharge during any calendar day. When a proportional-to-flow composite sampling device is used, the daily concentration is the concentration of that 24-hour composite; when other sampling means are used, the daily concentration is the arithmetic mean of the concentrations of equal volume samples collected during any calendar day or sampling period.

"**Discharge**" or "discharge of a pollutant" refers to the addition of pollutants to waters from a source.

A “**dry weather overflow**” is a type of sanitary sewer overflow and is defined as one day or any portion of a day in which unpermitted discharge of wastewater from the collection or treatment system other than through the permitted outfall occurs and is not directly related to a rainfall event. Discharges from more than one point within a 24-hour period shall be counted as separate overflows.

“**Degradation**” means the alteration of the properties of waters by the addition of pollutants or removal of habitat.

“**De Minimis**” - Alterations, other than those resulting in the condition of pollution or new domestic wastewater discharges, that represent either a small magnitude or a short duration shall be considered a de minimis impact and will not be considered degradation for purposes of implementing the antidegradation policy. Discharges other than domestic wastewater will be considered de minimis if they are temporary or use less than five percent of the available assimilative capacity for the substance being discharged. Water withdrawals will be considered de minimis if less than five percent of the 7Q10 flow of the stream is removed (the calculations of the low flow shall take into account existing withdrawals). Habitat alterations authorized by an Aquatic Resource Alteration Permit (ARAP) are de minimis if the division finds that the impacts are offset by a combination of impact minimization and/or insystem mitigation.

If more than one activity has been authorized in a segment and the total of the impacts uses no more than ten percent of the assimilative capacity, available habitat, or 7Q10 low flow, they are presumed to be de minimis. Where total impacts use more than ten percent of the assimilative capacity, available habitat, or 7Q10 low flow they may be treated as de minimis provided that the division finds on a scientific basis that the additional degradation has an insignificant effect on the resource and that no single activity is allowed to consume more than five percent of the assimilative capacity, available habitat or 7Q10 low flow.

An “**ecoregion**” is a relatively homogeneous area defined by similarity of climate, landform, soil, potential natural vegetation, hydrology, or other ecologically relevant variables.

The “**geometric mean**” of any set of values is the n^{th} root of the product of the individual values where “n” is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For the purposes of calculating the geometric mean, values of zero (0) shall be considered to be one (1).

A “**grab sample**” is a single influent or effluent sample collected at a particular time.

The “**instantaneous maximum concentration**” is a limitation on the concentration, in milligrams per liter, of any pollutant contained in the wastewater discharge determined from a grab sample taken from the discharge at any point in time.

The “**instantaneous minimum concentration**” is the minimum allowable concentration, in milligrams per liter, of a pollutant parameter contained in the

wastewater discharge determined from a grab sample taken from the discharge at any point in time.

The "**monthly average amount**", shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

The "**monthly average concentration**", other than for *E. coli* bacteria, is the arithmetic mean of all the composite or grab samples collected in a one-calendar month period.

A "**one week period**" (or "**calendar-week**") is defined as the period from Sunday through Saturday. For reporting purposes, a calendar week that contains a change of month shall be considered part of the latter month.

"**Pollutant**" means sewage, industrial wastes, or other wastes.

A "**quarter**" is defined as any one of the following three-month periods: January 1 through March 31, April 1 through June 30, July 1 through September 30, and/or October 1 through December 31.

A "**rainfall event**" is defined as any occurrence of rain, preceded by 10 hours without precipitation that results in an accumulation of 0.01 inches or more. Instances of rainfall occurring within 10 hours of each other will be considered a single rainfall event.

A "**rationale**" (or "fact sheet") is a document that is prepared when drafting an NPDES permit or permit action. It provides the technical, regulatory and administrative basis for an agency's permit decision.

A "**reference site**" means least impacted waters within an ecoregion that have been monitored to establish a baseline to which alterations of other waters can be compared.

A "**reference condition**" is a parameter-specific set of data from regional reference sites that establish the statistical range of values for that particular substance at least-impacted streams.

A "**sanitary sewer overflow (SSO)**" is defined as an unpermitted discharge of wastewater from the collection or treatment system other than through the permitted outfall.

"**Sewage**" means water-carried waste or discharges from human beings or animals, from residences, public or private buildings, or industrial establishments, or boats, together with such other wastes and ground, surface, storm, or other water as may be present.

"**Severe property damage**" when used to consider the allowance of a bypass or SSO means substantial physical damage to property, damage to the treatment

facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass or SSO. Severe property damage does not mean economic loss caused by delays in production.

"Sewerage system" means the conduits, sewers, and all devices and appurtenances by means of which sewage and other waste is collected, pumped, treated, or disposed.

A **"subecoregion"** is a smaller, more homogenous area that has been delineated within an ecoregion.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

The term, **"washout"** is applicable to activated sludge plants and is defined as loss of mixed liquor suspended solids (MLSS) of 30.00% or more from the aeration basin(s).

"Waters" means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters.

The **"weekly average amount"**, shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar week when the measurements were made.

The **"weekly average concentration"**, is the arithmetic mean of all the composite samples collected in a one-week period. The permittee must report the highest weekly average in the one-month period.

4.2. ACRONYMS AND ABBREVIATIONS

1Q10 – 1-day minimum, 10-year recurrence interval

30Q20 – 30-day minimum, 20-year recurrence interval

7Q10 – 7-day minimum, 10-year recurrence interval

BAT – best available technology economically achievable

BCT – best conventional pollutant control technology

BDL – below detection level

BOD₅ – five day biochemical oxygen demand

BPT – best practicable control technology currently available

CBOD₅ – five day carbonaceous biochemical oxygen demand

CEI – compliance evaluation inspection

CFR – code of federal regulations
CFS – cubic feet per second
CFU – colony forming units
CIU – categorical industrial user
CSO – combined sewer overflow
DMR – discharge monitoring report
D.O. – dissolved oxygen
E. coli – *Escherichia coli*
EFO – environmental field office
LB(lb) - pound
IC₂₅ – inhibition concentration causing 25% reduction in survival, reproduction and growth of the test organisms
IU – industrial user
IWS – industrial waste survey
LC₅₀ – acute test causing 50% lethality
MDL – method detection level
MGD – million gallons per day
MG/L(mg/l) – milligrams per liter
ML – minimum level of quantification
ml – milliliter
MOR – monthly operating report
NODI – no discharge
NOEC – no observed effect concentration
NPDES – national pollutant discharge elimination system
PL – permit limit
POTW – publicly owned treatment works
RDL – required detection limit
SIU – significant industrial user
SSO – sanitary sewer overflow
STP – sewage treatment plant
TCA – Tennessee code annotated
TDEC – Tennessee Department of Environment and Conservation
TMDL – total maximum daily load
TRC – total residual chlorine
TSS – total suspended solids
WQBEL – water quality based effluent limit

RATIONALE – MARCH 2013

Chapel Hill STP
NPDES PERMIT No. TN0064670
DATE: 5/3/2013
Permit Writer: Bob Alexander

1. FACILITY INFORMATION

Chapel Hill STP
Honorable Carl Cooper - Mayor
Chapel Hill, Marshall County, Tennessee
(931) 364-7632
Treatment Plant Average Design Flow: 0.17 MGD
Percentage Industrial Flow: 0 %
Treatment Description: Aerated lagoon, two cells in series, with
chlorination prior to discharge

2. RECEIVING STREAM INFORMATION

Duck River at mile 185.5
Watershed Group: Duck-Upper
Hydrocode: 6040002
Low Flow: 7Q10 = 50.8 MGD (78.6 CFS)
Low Flow Reference:
USGS Water-Resource Investigation Report 95-4293
Station #03598000

Stream Classification Categories:

Domestic Wtr Supply	Industrial	Fish & Aquatic	Recreation
X	X	X	X
Livestock Wtr & Wlfe	Irrigation	Navigation	
X	X		

Water Quality Assessment: Fully supporting

3. CURRENT PERMIT STATUS

Permit Type:	Municipal
Classification:	Minor
Issuance Date:	30-APR-08
Expiration Date:	29-APR-13
Effective Date:	01-JUN-08

4. HISTORICAL MONITORING AND INSPECTION REPORTS

A review of the DMR summary reveals that the Town of Chapel Hill has occasionally exceeded permit limits for BOD₅. A complete discharge monitoring report summary is located in Appendix 2.

TDEC conducted the Performance Audit Inspection in September 2012 and identified shortcomings in laboratory operations. Laboratory analyses for BOD₅ and dissolved oxygen need to be improved in order for meaningful data to be developed on lagoon treatment performance. These data from 2008 – 2013 have indicated the lagoon has not continuously met the permit limit of 30 mg/l BOD₅.

5. PERMIT LIMITATIONS

The division has examined the previous permit limits based upon best professional judgment in 1985 and continued in successive permits. These limits set effluent CBOD₅ at 30 mg/l Daily Maximum and 45 mg/l Monthly Average. While the plant has had difficulty in meeting these limits- discussed further herein– no downstream water quality impacts are observed, due primarily to the substantial dilution of this small discharge with the available flow in the Duck River.

For reasons discussed herein, the division reissues the permit with the same limits as the current permit.

5.1. CBOD₅, DISSOLVED OXYGEN, AND PERCENT REMOVALS REQUIREMENTS

- a. Biochemical oxygen demand, or BOD, is a measure of the oxygen used when biological processes break down organic pollutants in wastewater. The amount of oxygen used is more specifically referred to as the five-day biochemical oxygen demand, or BOD₅. This parameter is used in the wastewater industry to measure both the strength of wastewater and the performance of wastewater treatment processes.

For this facility, the monthly average BOD₅ limit of 30 mg/l will be retained from the previous permit.

- b. The treatment facility is required to remove 65% of the BOD₅ and TSS that enter the facility on a monthly basis. This is part of the minimum requirement for all municipal treatment facilities contained in Code of Federal Regulations 40 Part 133.102.

5.2. CHLORINATION

The existing limit for Total Residual Chlorine of 2.0 mg/l will be retained in the renewed permit. Chlorination is used to disinfect the wastewater in order to protect the receiving stream from pathogens. Because chlorine can be toxic to aquatic life, the division limits residual chlorine. However, when water quality is not the limiting

factor due to the large dilution afforded by the receiving stream, an effluent concentration of 2.0 mg/l shall not be exceeded as an operational control of treatment facilities.

Total residual chlorine (TRC) monitoring shall be applicable when chlorine, bromine, or any other oxidants are added. The acceptable methods for analysis of TRC are any methods specified in Title 40 CFR, Part 136 as amended. The method detection level (MDL) for TRC shall not exceed 0.05 mg/l unless the permittee demonstrates that its MDL is higher. The permittee shall retain the documentation that justifies the higher MDL and have it available for review upon request. In cases where the permit limit is less than the MDL, the reporting of TRC at less than the MDL shall be interpreted to constitute compliance with the permit.

5.3. *E. COLI* REQUIREMENTS

The existing limit for *E. coli* daily maximum limit of 487 colonies per 100 ml/l will be retained in the renewed permit. Disinfection of wastewater is required to protect the receiving stream from pathogenic microorganisms. *E. coli* are indicator organisms used as a measure of bacteriological health of a receiving stream and the effectiveness of disinfection. The division imposes this an *E. coli* limit on discharges of treated sewage for the protection of recreational use of the Duck River, due to its classification as Exceptional TN waters.

5.4. BIOMONITORING

The division evaluates all dischargers for reasonable potential to exceed the narrative water quality criterion, "no toxics in toxic amounts". The division has determined that for municipal facilities with stream dilutions of less than 500 to 1, any of the following conditions may demonstrate reasonable potential to exceed this criterion.

- a. Toxicity is suspected or demonstrated.
- b. A pretreatment program is required.
- c. The design capacity of the facility is greater than 1.0 MGD.

Since none of these criteria relate to the Town of Chapel Hill's discharge, biomonitoring is not required.

6. PROPOSED EFFLUENT LIMITS

Effluent limits shown below are retained from the previous permits for BOD, TSS, E. coli, pH, TRC, DO, and Settleable Solids. . Additional permit conditions are discussed in following sections.

<u>Parameter</u>	<u>Qualifier</u>	<u>Value</u>	<u>Unit</u>	<u>Sample Type</u>	<u>Frequency</u>	<u>Statistical Base</u>
Overflow use, occurrences	Report	-	occur/mo	Occurrences	Monthly	Monthly Total
<u>Parameter</u>	<u>Qualifier</u>	<u>Value</u>	<u>Unit</u>	<u>Sample Type</u>	<u>Frequency</u>	<u>Statistical Base</u>
BOD, 5-day, 20 C	<=	30	mg/L	Composite	Weekly	Monthly Average
BOD, 5-day, 20 C	<=	40	mg/L	Composite	Weekly	Weekly Average
BOD, 5-day, 20 C	<=	45	mg/L	Composite	Weekly	Daily Maximum
BOD, 5-day, 20 C	<=	43	lb/d	Composite	Weekly	Monthly Average
BOD, 5-day, 20 C	<=	57	lb/d	Composite	Weekly	Weekly Average
CBOD, 5-day, 20 C	Report	-	-	Composite	Once Per Weekly Discharge	-
Chlorine, total residual (TRC)	<=	2	mg/L	Grab	Five Per Week	Instantaneous Maximum
E. coli, MTEC-MF	<=	126	#/100mL	Grab	Weekly	Monthly Geometric Maximum
E. coli, MTEC-MF	<=	487	#/100mL	Grab	Weekly	Daily Maximum
Flow	Report	-	Mgal/d	Continuous	Daily	Monthly Average
Flow	Report	-	Mgal/d	Continuous	Daily	Daily Maximum
Oxygen, dissolved (DO)	>=	1	mg/L	Grab	Five Per Week	Instantaneous Minimum
Settleable Solids	<=	1	mL/L	Grab	Once Per Weekly Discharge	Daily Maximum
Total Suspended Solids (TSS)	<=	120	mg/L	Composite	Once Per Weekly Discharge	Daily Maximum
Total Suspended Solids (TSS)	<=	100	mg/L	Composite	Once Per Weekly Discharge	Monthly Average
Total Suspended Solids (TSS)	<=	156	lb/d	Composite	Once Per Weekly Discharge	Weekly Average
Total Suspended Solids (TSS)	<=	142	lb/d	Composite	Once Per Weekly Discharge	Monthly Average
Total Suspended Solids (TSS)	<=	110	mg/L	Composite	Once Per Weekly Discharge	Weekly Average
pH	>=	6	SU	Grab	Five Per Week	Minimum
pH	<=	9	SU	Grab	Five Per Week	Maximum

Description : External Outfall, Number : 001, Monitoring : Percent Removal, Season : All Year

<u>Parameter</u>	<u>Qualifier</u>	<u>Value</u>	<u>Unit</u>	<u>Sample Type</u>	<u>Frequency</u>	<u>Statistical Base</u>
BOD, 5-day, % removal	>=	65	%	Composite	Weekly	Monthly Average Minimum

Description : External Outfall, Number : 001, Monitoring : See Comments, Season : All Year

<u>Parameter</u>	<u>Qualifier</u>	<u>Value</u>	<u>Unit</u>	<u>Sample Type</u>	<u>Frequency</u>	<u>Statistical Base</u>
BOD, 5-day, 20 C	<=	64	lb/d	Composite	Weekly	Daily Maximum
Total Suspended Solids (TSS)	<=	170	lb/d	Composite	Weekly	Daily Maximum
<u>Parameter</u>	<u>Qualifier</u>	<u>Value</u>	<u>Unit</u>	<u>Sample Type</u>	<u>Frequency</u>	<u>Statistical Base</u>
Bypass of Treatment	Report	-	occur/mo	Occurrences	Monthly	Monthly Total
Overflow use, occurrences	Report	-	occur/mo	Occurrences	Monthly	Monthly Total

Description : External Outfall, Number : 001, Monitoring : Raw Sewage Influent, Season : All Year

<u>Parameter</u>	<u>Qualifier</u>	<u>Value</u>	<u>Unit</u>	<u>Sample Type</u>	<u>Frequency</u>	<u>Statistical Base</u>
BOD, 5-day, 20 C	Report	-	mg/L	Grab	Weekly	Daily Maximum
BOD, 5-day, 20 C	Report	-	mg/L	Grab	Weekly	Monthly Average
CBOD, 5-day, 20 C	Report	-	-	Composite	Once Per Weekly Discharge	-
Flow	Report	-	Mgal/d	-	-	Monthly Average
Flow	Report	-	Mgal/d	-	-	Daily Maximum

7.0 ADDITIONAL PERMIT CONDITIONS

7.1 OVERFLOW AND BYPASS REPORTING REPORTING PROVISIONS FROM THE EXISTING PERMIT WILL BE RETAINED IN THE RENEWED PERMIT.

For the purposes of demonstrating proper operation of the collection, transmission, and treatment system, the permit defines overflow as any release of sewage other than through permitted outfalls. This definition includes, but is not necessarily limited to, sanitary sewer overflows and dry weather overflows as defined. For example, a collection system blockage or hydraulic overload that causes backup and release of sewage into a building during a wet weather event may not clearly fit either the definition of a sanitary sewer overflow or a dry weather overflow. Still, any unpermitted release potentially warrants permittee mitigation of human health and/or water quality impacts via direct or indirect contact and demonstrates a hydraulic problem in the system that warrants permittee consideration as part of proper operation and maintenance of the system.

However, for the more typical, unpermitted, releases into the environment, this permit intends interchangeable use of the terms, “overflow” and “sanitary sewer overflow” for compliance reporting purposes.

7.2. CERTIFIED WASTEWATER TREATMENT OPERATOR

The waste treatment facilities shall be operated under the supervision of a certified wastewater treatment operator in accordance with the Water Environmental Health Act of 1984.

7.3. COLLECTION SYSTEM CERTIFIED OPERATOR

The collection system shall be operated under the supervision of a certified collection system operator in accordance with the Water Environmental Health Act of 1984.

7.4. PRETREATMENT PROGRAM

The Chapel Hill STP has received an exemption from development of a pretreatment program due to the lack of any significant industrial users. To keep the exemption, the Town of Chapel Hill must complete an updated Industrial Waste Survey within 120 days of the effective date of the permit, unless such a survey has been submitted within 3 years of the effective date. The Town of Chapel Hill must notify the division immediately of its intent to connect a significant industrial user to the sewage system.

7.5. PERMIT TERM

This permit is being reissued for 5 years in order to coordinate its reissuance with other permits located within the Duck-Upper Watershed.

8. COMPLIANCE SCHEDULE SUMMARY

Description of Report to be Submitted	Reference Section in Permit
Monthly Discharge Monitoring Reports	1.3.1
Monthly Operational Reports	1.3.4
Monthly Bypass and Overflow Summary Report	1.3.5.1
Industrial Waste Survey Report within 120 days of the effective permit date	3.2.a

9. ANTIDegradation STATEMENT/WATER QUALITY STATUS

Tennessee's Antidegradation Statement is found in the Rules of the Tennessee Department of Environment and Conservation, Chapter 1200-4-3-.06. This statement prohibits the degradation of high quality waters, where the water quality is construed to be better than the minimum level necessary to support recreation and fish and aquatic life.

The division has determined that the Duck River is classified as Exceptional Tennessee Waters because of the presence of Federal endangered and threatened species¹. Additionally, this water is fully supporting its designated uses.

Considering the mixing of the Chapel Hill discharge of 0.17 MGD with the available dilution of the Duck River low flow, 51 MGD, the division does not consider this discharge to represent potential for degradation that warrants additional controls. Per Rule 1200-4-3-.06, the Town of Chapel Hill has provided information indicating there are no reasonable alternatives to the continued discharge².

The department has maintained, and shall continue to assess, the water quality of the stream to assure that the water quality is adequate to protect the existing uses of the stream fully, and to assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

TMDLs have been developed and approved for this waterbody segment on the following parameters and dates:

<u>Parameter</u>	<u>TMDL Approval Date</u>
Siltation & Habitat Alteration	7/18/2006
Fecal Coliform	5/17/2004

The proposed terms and conditions of this permit comply with the wasteload allocations of these TMDLs.

¹ Available at: http://environment-online.state.tn.us:8080/pls/enf_reports/f?p=9034:34304:24568076985401

² Town of Chapel Hill letter, Donnie Glover, Superintendent to V. Janjic, TDEC, 28 Sep 12.

APPENDIX 1 PREVIOUS PERMIT LIMITS

Effluent Characteristics	Effluent Limitations						Monitoring Requirements		
	Monthly Average Conc. (mg/l)	Monthly Average Amount (lb/day)	Weekly Average Conc. (mg/l)	Weekly Average Amount (lb/day)	Daily Maximum Conc. (mg/l)	Daily Minimum Percent Removal	Measurement Frequency	Sample Type	Sampling Point
BOD ₅	30	43	40	57	45	64	1/week	composite	effluent
	Report	—	—	—	Report	—	1/week	grab	influent
Suspended Solids	100	142	110	156	120	170	1/week	composite	effluent
Sanitary Sewer Overflows, Total Occurrences	Report						continuous	visual	NA
Dry Weather Overflows, Total Occurrences	Report						continuous	visual	NA
Bypass of Treatment, Total Occurrences	Report						continuous	visual	NA

Note: The permittee shall achieve 65% removal of BOD₅ on a monthly average basis. The permittee shall report all instances of overflow and/or bypasses.

Effluent Characteristics	Effluent Limitations			Monitoring Requirements		
	Monthly Average	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type	Sampling Point
<i>E. coli</i>	126/100 ml (see the following paragraphs)	—	487/100 ml	1/week	grab	effluent
Chlorine residual (Total)	—	—	2.0 mg/l instantaneous	5/week	grab	effluent
Settleable solids	—	—	1.0 ml/l	1/week	grab	effluent
Dissolved oxygen	—	1.0 mg/l instantaneous	—	5/week	grab	effluent
pH (Standard Units)	—	6.0	9.0	5/week	grab	effluent
Flow (MGD)	Report	—	Report	7/week	continuous	influent
	Report	—	Report	7/week	continuous	effluent

APPENDIX 2 - DISCHARGE MONITORING REPORT SUMMARY

Limit	00310 BOD, 5-day, 20 deg. C / Location 1 / Season 0 / Base				
Limit Unit Desc	lb/d	lb/d	mg/l	mg/l	mg/l
Statistical Base	MO AVG	WKLY AVG	MO AVG	WKLY AVG	DAILY MX
Limit Value	43	57	30	40	45
DMR Values	Q1	Q2	C1	C2	C3
01/31/2010	11.3	14.7	18.8	28	28
02/28/2010	11.66	20.99	17.8	26.22	26.22
03/31/2010	13.59	19.77	28.26	44.73	44.73
04/30/2010	35.17	48.76	70.52	81.49	81.49
05/31/2010	33	87.49	35.13	57.64	57.64
06/30/2010	15.51	21.78	30.56	38.4	38.4
07/31/2010	20.36	33.54	28.26	33.25	33.25
08/31/2010	16.82	34.59	25.02	39.88	39.88
09/30/2010	8.22	11.48	18.49	22.56	22.56
10/31/2010	5.52	7.91	15.85	21.55	21.55
11/30/2010	21.02	54.74	18.97	27.93	27.93
12/31/2010	4	7.19	15.25	18.73	18.73
01/31/2011	5.12	6.24	23.73	25.65	25.65
02/28/2011	10.23	26.7	29.39	46.4	46.4
03/31/2011	14.73	19.86	34.711	44.73	44.73
04/30/2011	data not included in this summary - extreme rain events				
05/31/2011	data not included in this summary - extreme rain events				
06/30/2011	13.94	24.72	31.42	41.74	41.74
07/31/2011	21.64	55.19	35.82	48.07	48.07
08/31/2011	13.79	19.68	32.84	39.33	39.33
09/30/2011	15.41	26.24	28.14	40.34	40.34
10/31/2011	13.39	17.63	30.35	40.4	40.4
11/30/2011	30.96	93.11	28.49	32.5	32.5
12/31/2011	18.22	32.89	27.85	32.01	32.01
01/31/2012	16.19	19.51	33.6	41.05	41.05
02/29/2012	13.02	15.12	25.18	27.23	27.23
03/31/2012	17.33	23.69	24.17	25.26	25.26
04/30/2012	12.09	19.81	23.38	24.24	24.24
05/31/2012	15.88	24.31	26.22	35.55	35.55
06/30/2012	3.3	13.21	25.37	42.26	42.26
07/31/2012	0	0	24.35	30.25	30.25
08/31/2012	21.5	38.98	31.11	46.55	46.55
09/30/2012	33.27	112.72	33.39	38.4	38.4
10/31/2012	18.86	31.68	33.81	57.55	57.55
11/30/2012	16.71	24.86	34.22	58.45	58.45
12/31/2012	23.95	44.78	27.66	32.54	32.54
01/31/2013	102.42	203.65	27.58	32.46	32.46
AVE	18.52	35.93	28.45	37.81	37.81
MAX	102.42	203.65	70.52	81.49	81.49

APPENDIX 2 – CONT'D

Limit	% Rem'l	pH	pH	TSS					
Limit Unit Desc	lb/d	SU	SU	lb/d	lb/d	mg/l	mg/l	mg/l	lb/d
Statistical Base	DAILY MX	MINIMUM	MAXIMUM	MO AVG	WKLY AVG	MO AVG	WKLY AVG	DAILY MX	DAILY MX
Limit Value	64	6	9	142	156	100	110	120	170
DMR Values	Q2	C1	C3	Q1	Q2	C1	C2	C3	Q2
10/31/2010	7.91	7.63	8.35	9.1	12.7	26.2	35.5	35.5	12.7
11/30/2010	54.74	7.88	8.99	11	20.6	12.38	14	14	20.6
12/31/2010	18.73	8.15	9.98	3.1	5.4	12.1	15	15	5.4
01/31/2011	6.24	7.52	8.79	3	4.6	13.38	16	16	4.6
02/28/2011	26.7	7.88	9.61	2.8	4.6	14.38	24	24	4.6
03/31/2011	19.86	7.86	8.91	12	25.9	23.5	34.5	34.5	25.9
04/30/2011	178.32	7.94	9.64	40	142.3	18	23.5	23.5	142.3
05/31/2011	411.12	7.82	9.84	16.8	45.8	21.5	31	31	45.8
06/30/2011	24.72	7.29	8.71	5.8	11.8	13	20	20	11.8
07/31/2011	55.19	7.45	8.92	8.3	28.4	10.8	20	20	28.4
08/31/2011	19.68	7.49	8.77	7.8	11.5	18.32	22.9	22.9	11.5
09/30/2011	26.24	7.51	8.82	8.3	11.1	16.4	25.5	25.5	11.1
10/31/2011	17.63	7.89	8.78	4.1	5.3	9.63	12	12	5.3
11/30/2011	93.11	7.99	8.75	11	29.4	11.5	15	15	29.4
12/31/2011	32.89	7.61	8.82	10.6	21	16.5	20	20	21
01/31/2012	19.51	8.28	8.98	5.8	9.2	11.88	14.5	14.5	9.2
02/29/2012	27.23	8.2	8.8	7.3	8.2	14.25	16	16	8.2
03/31/2012	23.69	7.87	8.79	12.1	18	16.4	22	22	18
04/30/2012	19.81	8.2	8.83	7.5	11.4	14.75	18.5	18.5	11.4
05/31/2012	24.31	7.7	8.55	4.6	6.2	8.38	11	11	6.2
06/30/2012	13.21	8.17	8.56	0.9	3.6	10.63	16	16	3.6
07/31/2012	0	7.73	8.49	0	0	12.25	15.5	15.5	0
08/31/2012	38.98	7.79	8.71	9.8	16.8	13.4	18	18	16.8
09/30/2012	112.72	7.72	8.52	16	56.3	13.13	16	16	56.3
10/31/2012	31.68	8.11	8.72	7.3	10.2	13	16.5	16.5	10.2
11/30/2012	24.86	7.44	8.77	6.4	10.3	12.5	16	16	10.3
12/31/2012	44.78	8	8.59	9.7	12	14.83	16.5	16.5	12
01/31/2013	203.65	8.01	8.71	67.7	118	19	23.5	23.5	118
	56	7.8	8.4	11.0	23.6	14.7	19.6	19.6	23.6

APPENDIX 2 – CONT'D

Limit	Sett Sol	E. Coli:	E. Coli:	Effluent Flow		Influent Flow		TRC	Bypass
Limit Unit Desc	M/L	#/ 100 mL	#/ 100 mL	MGD	MGD	MGD	MGD	mg/l	# /Month
Statistical Base	DAILY MX	MO GEOM	DAILY MX	MO AVG	DAILY MX	MO AVG	DAILY MX	INST MAX	MO TOTAL
Limit Value	1	126	487					2	
DMR Values	C3	C2	C3	Q1	Q2	Q1	Q2	C3	Q1
10/31/2010	0.1	1	1	0.057	0.419	0.078	0.126	1.92	1
11/30/2010	0.1	1	1	0.065	0.235	0.116	0.81	1.9	0
12/31/2010	0.1	1	1	0.038	0.189	0.072	0.151	1.9	1
01/31/2011	0.1	1	1	0.04	0.308	0.096	0.158	1.94	0
02/28/2011	0.1	1	1	0.031	0.118	0.094	0.158	1.55	1
03/31/2011	0.1	1	1	0.041	0.097	0.101	0.178	1.89	1
04/30/2011	0.2	1	1	0.195	1.785	0.14	0.497	1.92	0
05/31/2011	0.1	1	1	0.083	0.279	0.126	0.381	1.91	1
06/30/2011	0.1	1	1	0.052	0.1	0.087	0.118	1.95	0
07/31/2011	0.1	1	1	0.06	0.17	0.094	0.136	1.83	1
08/31/2011	0.1	1	1	0.058	0.099	0.109	0.186	1.39	0
09/30/2011	0.1	1	1	0.095	0.374	0.112	0.201	1.77	0
10/31/2011	0.1	1	1	0.045	0.069	0.093	0.118	1.65	2
11/30/2011	0.1	1	1	0.071	0.392	0.103	0.335	1.61	0
12/31/2011	0.1	1	1	0.066	0.255	0.091	0.186	1.92	0
01/31/2012	0.1	1	1	0.067	0.16	0.091	0.133	1.91	1
02/29/2012	0.1	1	1	0.064	0.104	0.084	0.108	1.99	0
03/31/2012	0.1	1	1	0.082	0.242	0.086	0.118	1.75	0
04/30/2012	0.1	1	1	0.082	0.049	0.093	0.163	1.87	0
05/31/2012	0.1	1	1	0.082	0.287	0.091	0.139	1.66	0
06/30/2012	0.1	1	1	0.102	0.185	0.092	0.125	1.76	1
07/31/2012	0.1	1	1	NODI=G	NODI=G	0.097	0.129	1.92	0
08/31/2012	0.1	1	1	0.065	0.164	0.1	0.233	1.77	0
09/30/2012	0.1	1	1	0.131	0.514	0.107	0.334	1.77	1
10/31/2012	1	1	1	0.063	0.109	0.1	0.262	1.99	0
11/30/2012	1	1	1	0.062	0.141	0.095	0.182	1.94	0
12/31/2012	1	1	1	0.195	0.82	0.125	0.371	1.93	0
01/31/2013	1	1	1	0.336	1.2	0.182	0.475	1.99	2
				0.0862	0.328	0.10	0.23	1.8321429	